

SEQUENCE LISTING

<110>	GILBERTH MARYSE POPOFF, MICHEL-ROBERT												
<120>	CLOSTRIDIUM TOXIN AND PROCESS FOR THE PREPARATION OF IMMUNOGENIC COMPOSITIONS												
<130>	0660-0172-0CONT												
<140>	09/531,438												
<141>													
<150>	PCT/FR98/01999												
<151>	·												
<150> <151>													
(131)													
<160>	8												
<170>	0> PatentIn version 3.2												
	> Faceholii velbion 3.2												
<210>	1												
<211>	1392												
<212>													
<213>	Clostridium perfringens												
<220>													
<221>	CDS												
<222>	(268)(1065)												
<400>	1 gata tottaaattt agcacagaag aatgtttaaa tgaaataaag ataataaaaa 60												
attigg	gata tertadatte ageacagaag aatgertada tgadatadag atdatadada vo												
gatata	ttaa ttatatagct gaaaatttat aattatatga taagtatagt taataaata												
	100												
aaagtg	ttct cgggggacac ttttttgttt taaaaaggaa aatataaata aaatttagat 180												
aaaagt	gtaa aataattatt tttattttaa atttgttaaa aatttgatat aattgaattg 240												
taaaaa	aaat ttcagggggg aatataa atg aaa aaa att att tca aag ttt act 294												
	Met Lys Lys Ile Ile Ser Lys Phe Thr												
	1 5												
ata at	t ttt atg ttt tca tgt ttt ctt att gtt gga gca ata agt cca. 342												
_	t ttt atg ttt tca tgt ttt ctt att gtt gga gca ata agt cca 342 e Phe Met Phe Ser Cys Phe Leu Ile Val Gly Ala Ile Ser Pro												
10	15 20 25												
10													
atg aa	a gca agt gca aaa gaa atc gac gct tat aga aag gta atg gag 390												
Met Ly	s Ala Ser Ala Lys Glu Ile Asp Ala Tyr Arg Lys Val Met Glu												
	30 35 40												
aat ta	t att aat gat tta aan aag tag gat att aat ag gtt gta aag (420												
	t ctt aat gct tta aaa aac tac gat att aat aca gtt gta aac 438												
мын ту	r Leu Asn Ala Leu Lys Asn Tyr Asp Ile Asn Thr Val Val Asn 45 50 55												
att tc	a gaa gat gaa aga gta aat aat gtt gaa cag tat aga gaa atg 486												
	r Glu Asp Glu Arg Val Asn Asn Val Glu Gln Tyr Arg Glu Met												
	60 65 70												

tta gaa gat ttt aaa tat gat cct aac caa caa ctg aaa tct ttt gaa Leu Glu Asp Phe Lys Tyr Asp Pro Asn Gln Gln Leu Lys Ser Phe Glu 75 80 85	534									
ata ctt aat tca caa aag agc gat aat aaa gaa ata ttt aat gta aaa Ile Leu Asn Ser Gln Lys Ser Asp Asn Lys Glu Ile Phe Asn Val Lys 90 95 100 105	582									
act gaa ttt tta aat ggt gca att tat gat atg gaa ttt act gta tca Thr Glu Phe Leu Asn Gly Ala Ile Tyr Asp Met Glu Phe Thr Val Ser 110 115 120	630									
tct aaa gat gga aaa tta ata gta tct gat atg gaa aga aca aaa gtt Ser Lys Asp Gly Lys Leu Ile Val Ser Asp Met Glu Arg Thr Lys Val 125 130 135	678									
gag aat gaa gga aaa tat att tta aca cca tca ttt aga act caa gtt Glu Asn Glu Gly Lys Tyr Ile Leu Thr Pro Ser Phe Arg Thr Gln Val 140 145 150	726									
tgt aca tgg gat gat gaa cta gca caa gca att ggg gga gtt tat cca Cys Thr Trp Asp Asp Glu Leu Ala Gln Ala Ile Gly Gly Val Tyr Pro 155 160 165	774									
caa aca tat tct gat aga ttt aca tat tat gca gat aat ata tta tta Gln Thr Tyr Ser Asp Arg Phe Thr Tyr Tyr Ala Asp Asn Ile Leu Leu 170 175 180 185	822									
aac ttc aga caa tat gca act tca ggt tca aga gat tta aaa gta gaa Asn Phe Arg Gln Tyr Ala Thr Ser Gly Ser Arg Asp Leu Lys Val Glu 190 195 200	870									
tat agt gtt gta gat cat tgg atg tgg aaa gat gat gtt aaa gct tct Tyr Ser Val Val Asp His Trp Met Trp Lys Asp Asp Val Lys Ala Ser 205 210 215	918									
caa atg gta tat ggt caa aat cct gat tct gct aga caa ata aga tta Gln Met Val Tyr Gly Gln Asn Pro Asp Ser Ala Arg Gln Ile Arg Leu 220 225 230	966									
tat ata gaa aaa gga caa tct ttc tat aaa tat aga ata aga att aaa Tyr Ile Glu Lys Gly Gln Ser Phe Tyr Lys Tyr Arg Ile Arg Ile Lys 235 240 245	1014									
aac ttt aca cct gca tca att aga gta ttt ggt gaa ggg tat tgt gca Asn Phe Thr Pro Ala Ser Ile Arg Val Phe Gly Glu Gly Tyr Cys Ala 250 255 260 265	1062									
tag aaaaaatat gaagtgactt agtcacttca tattttttt actattaatt										
ttattatata aaaacctaac atacatgaaa gtattcttaa tacagttata tcaaaattaa	1175									
agtaggggaa ataaaataaa aggctaaaaa ctatattaaa aactataaaa attattaaat	1235									
taggttttaa ggtgttatat ttatttatga ttataggaat aaatatgcca aatggaataa	1295									
ataaaagtaa tattaataat tggtctaaaa agtatacatc attgataaaa gaaaaattac	1355									
cagtaaaaat tgagcttaaa aaattaaatg taaattt	1392									

<210> 2

<211> 265

<212> PRT

<213> Clostridium perfringens

<400> 2

Met Lys Lys Ile Ile Ser Lys Phe Thr Val Ile Phe Met Phe Ser Cys

1 10 15

Phe Leu Ile Val Gly Ala Ile Ser Pro Met Lys Ala Ser Ala Lys Glu 20 25 30



Ile Asp Ala Tyr Arg Lys Val Met Glu Asn Tyr Leu Asn Ala Leu Lys
35 40 45

Asn Tyr Asp Ile Asn Thr Val Val Asn Ile Ser Glu Asp Glu Arg Val 50 55 60

Asn Asn Val Glu Gln Tyr Arg Glu Met Leu Glu Asp Phe Lys Tyr Asp 65 70 75 80

Pro Asn Gln Gln Leu Lys Ser Phe Glu Ile Leu Asn Ser Gln Lys Ser 85 90 95

Asp Asn Lys Glu Ile Phe Asn Val Lys Thr Glu Phe Leu Asn Gly Ala 100 105 110

Ile Tyr Asp Met Glu Phe Thr Val Ser Ser Lys Asp Gly Lys Leu Ile 115 120 125

Val Ser Asp Met Glu Arg Thr Lys Val Glu Asn Glu Gly Lys Tyr Ile 130 135 140

Leu Thr Pro Ser Phe Arg Thr Gln Val Cys Thr Trp Asp Asp Glu Leu 145 150 155 160

Ala Gln Ala Ile Gly Gly Val Tyr Pro Gln Thr Tyr Ser Asp Arg Phe
165 170 175

Thr Tyr Tyr Ala Asp Asn Ile Leu Leu Asn Phe Arg Gln Tyr Ala Thr 180 185 190

Ser Gly Ser Arg Asp Leu Lys Val Glu Tyr Ser Val Val Asp His Trp 195 200 205

Met Trp Lys Asp Val Lys Ala Ser Gln Met Val Tyr Gly Gln Asn

220 210 215 Pro Asp Ser Ala Arg Gln Ile Arg Leu Tyr Ile Glu Lys Gly Gln Ser Phe Tyr Lys Tyr Arg Ile Arg Ile Lys Asn Phe Thr Pro Ala Ser Ile 250 Arg Val Phe Gly Glu Gly Tyr Cys Ala 260 <210> 3 <211> 267 <212> DNA <213> Clostridium perfringens <400> 3 60 attigggata tottaaatti agoacagaag aatgittaaa tgaaataaag ataataaaaa 120 aaagtgttct cgggggacac ttttttgttt taaaaaggaa aatataaata aaatttagat 180 aaaaqtqtaa aataattatt tttattttaa atttgttaaa aatttgatat aattgaattg 240 267 taaaaaaat ttcagggggg aatataa <210> 4 <211> 90 <212> DNA <213> Clostridium perfringens <220> <221> CDS (1)..(90) <222> 48 atg aaa aaa att att tca aag ttt act gta att ttt atg ttt tca tgt Met Lys Lys Ile Ile Ser Lys Phe Thr Val Ile Phe Met Phe Ser Cys ttt ctt att gtt gga gca ata agt cca atg aaa gca agt gca 90 Phe Leu Ile Val Gly Ala Ile Ser Pro Met Lys Ala Ser Ala <210> 5

<213> Clostridium perfringens
<400> 5

Met Lys Lys Ile Ile Ser Lys Phe Thr Val Ile Phe Met Phe Ser Cys
1 5 10 15

30

<211> <212>

	Phe Let	ı Ile	Val 20	Gly	Ala	Ile	Ser	Pro 25	Met	Lys	Ala	Ser	Ala 30	ı				
	<210><211><211><212><213>	6 30 DNA Arti	ficia	al Se	quer	nce												
	<220> <223>	synthetic DNA																
	<400> gaaatgt	<400> 6 gaaatgttta caactgtatt aatatcgtag													30			
_	<210><211><211><212><213>	7 23 DNA Arti	ficia	al Se	quer	nce												
	<220> <223>	synthetic DNA																
<400> 7 tcaagtttgt acatgggatg atg												23						
	<210><211><212><213>	8 327 DNA Clos	tridi	ium p	erfi	ringe	ens											
	<400> atttggg	8 gata	tctta	aaatt	t ag	gcaca	agaag	g aat	tgtt	caaa	tgaa	aataa	aag	ataa	ataa	aaa		60
	gatatat	taa	ttata	atago	t ga	aaaat	ttat	aat	tata	atga	taag	gtata	agt	taat	caaa	taa	1	20
	aaagtgt	tct (cgggg	ggaca	c tt	tttt	gttt	taa	aaaa	ggaa	aata	ataaa	ata	aaat	tta	gat	1	80
	aaaagt	gtaa a	aataa	attat	t tt	tatt	ttaa	att	tgtt	caaa	aatt	tgat	tat	aatt	gaa	ttg	2	40
	taaaaaa	aat	ttcag	9 9999	g aa	atata	aaato	g aaa	aaaa	atta	tttc	caaag	gtt	tact	gta	att	3	00

tttatgtttt catgttttct tattgtt